

ABSTRACT

There is provided a high-stiffness high-strength thin steel sheet having a tensile strength of not less than 590 MPa and a Young's modulus of not less than 225 GPa, which comprises C: 0.02-0.15%,
5 Si: not more than 1.5%, Mn: 1.5-4.0%, P: not more than 0.05%, S: not more than 0.01%, Al: not more than 1.5%, N: not more than 0.01% and Nb: 0.02-0.40% as mass%, provided that C, N and Nb contents satisfy $0.01 \leq C + (12/14) \times N - (12/92.9) \times Nb \leq 0.06$ and $N \leq (14/92.9) \times (Nb - 0.01)$ and the remainder being substantially iron and inevitable impurities,
10 and has a texture comprising a ferrite phase as a main phase and having a martensite phase at an area ratio of not less than 1%.